Structures, Processes, and Responses in Animals

6-3 The student will demonstrate an understanding of structures, processes, and responses in animals that allow them to survive and reproduce. (Life Science)

6.3.7 Compare learned to inherited behaviors in animals.
Taxonomy level: 2.6-B Understand Conceptual Knowledge

Previous/Future knowledge: In 4th grade (4-2.4), students distinguished between the characteristics of an organism that are inherited and those that are acquired over time. In 7th grade (7-2.7), students will distinguish between inherited traits and those that are acquired from environmental factors.

It is essential for students to know that a behavior is an activity or action, in response to changes in the environment, which helps an organism survive.

Some animal behaviors result from direct observations or experiences and are called *learned behaviors*.

- *Imprinting* is a behavior in which newborn animals recognize and follow the first moving object they see. Usually, this moving object is the mother. The imprinting behavior cannot be reversed.
- *Conditioning* (which includes trial-and-error learning) is a behavior in which an animal learns that a particular stimulus and its response to that stimulus will lead to a good or bad result. For example, chimpanzees learn to use small sticks to dig in the soil for insects, or a child learns that touching a hot object will cause pain.

Some animal behaviors are passed from the parent to the offspring and are with the animal from birth. These are called *inherited behaviors,* or instincts. Some examples of instincts are:

- The ability to swim, for example in whales or fish, is an inherited behavior. Whales and fish do not need to be taught how to swim.
- Crying in babies is an inherited behavior that is often a response to hunger, thirst, or sleepiness.
- When a snail digs a hole to lay its eggs, a bird builds a special kind of nest, or when a fiddler crab waves its claw to attract a female, the animals are acting on instinct.

It is not essential for students to know how inherited traits are passed from parents to offspring through genetics.

Assessment Guidelines:
The objective of this indicator is to *compare* learned to inherited behaviors in animals; therefore, the primary focus of assessment should be to detect similarities and differences between behaviors that animals learn and those they are born knowing how to do. However, appropriate assessments should also require students to *identify* a particular behavior as learned or inherited; *summarize* behaviors that are learned and behaviors that are inherited; *exemplify* behaviors that would occur due to learning or inheritance; or *classify* behaviors as learned or inherited.